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RESEARCH ARTICLE

A CASE REPORT: A SYNDROME OF UTERINE LIPOLEIOMYOMA AND MULTI-METABOLIC DISORDERS

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ABSTRACT

Lipoleiomyoma of the uterus is uncommon benign uterine tumour in premenopausal and postmenopausal women. The exact etiology is not known, but it may be associated with a history of leiomyoma, obesity, and hyper-estrogenic disorders. There are several proposed theories for the pathogenicity of lipoleiomyoma, none of which has been proven yet. Here we report a case of uterine lipoleiomyoma in a postmenopausal woman with long-standing diabetes mellitus and hypercholesterolemia. This observation suggests that coexistence of both diabetes mellitus and hypercholesterolemia in this patient may be just a syndromic association or it may have a role in the mechanism behind changes of leiomyoma to lipoleiomyoma in postmenauposal women.

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INTRODUCTION

Lipolieomyoma of the uterus are very rare benign neoplasm composed of admixture of smooth muscle, adipocytes and fibrous tissues. Incidence varies from 0.03% up to 0.2% among uterine leiomyomas. The tumour arises in the corpus of uterus. However, the cervix, broad ligament, and ovary can also be affected. There are several proposed mechanisms for the pathogenicity, none of them has been confirmed yet (Oh, 2015; Sharma, 2016).

A Case Report: a seventy-six-year old woman, presented to Umdurman Military Hospital in Sudan with postmenopausal bleeding, and gradually increasing abdominal mass over six months, she attained menopausal period at the age of fifty, and she was known hypertensive for the last twenty years and diabetic for five years, she was on lipid lowering drugs for three years. Biochemical tests showed hypercholesterolemia, Ultrasonography revealed uterine mass in the anterior wall measuring 5×5.5 cm, both ovaries and adnexa were normal, the radiological features are suggestive of lieomyoma. Surgery was done; total abdominal hysterectomy and bilateral salpingo-oopherectomy with omental biopsy was performed.

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Macroscopically, section revealed a uterine cavity with a well-circumscribed gray-yellowish mass measuring 5×5.5 compressing the anterior uterine wall. Microscopically, sections from the tumor showed lobules of mature adipose tissue intermingled with the fascicles of smooth muscle cells (the tumour was composed of mature adipose tissue divided into lobules by thin fibrous septa). These findings were diagnostic for lipoleiomyoma, no other abnormality were detected.

DISCUSSION

Lipoleiomyoma is a fatty benign uterine neoplasm; most commonly located in uterine body, but it can also be found in the cervix, retroperitoneum, broad ligament and ovaries. Usually it is asymptomatic, however, symptoms similar to those of leiomyoma can be experienced, such as uterine bleeding, pelvic dullness, and palpable mass, additionally, urinary symptoms like increase frequency, and urgency can be found (Nayal *et al*., 2016; Kelekci, 2015). The exact etiology is not known, but association with, hypothyroidism, and obesity was observed. In addition, association with hyper-estrogenic status, i.e., (adenomyosis, endometriosis, and endometrial hyperplasia) are also observed (Akbulut *et al*., 2014).

Pathogenicity: There are several proposed mechanisms for formation of the tumour, such as:

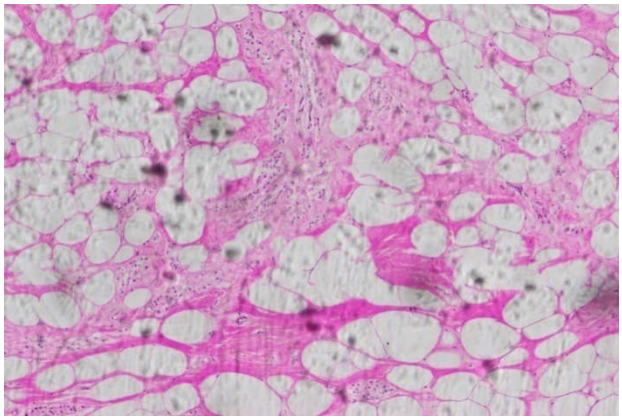

Figure 1. Photograph showing adipose tissue along with muscle bundles. (Hematoxylin and Eosin 100x)

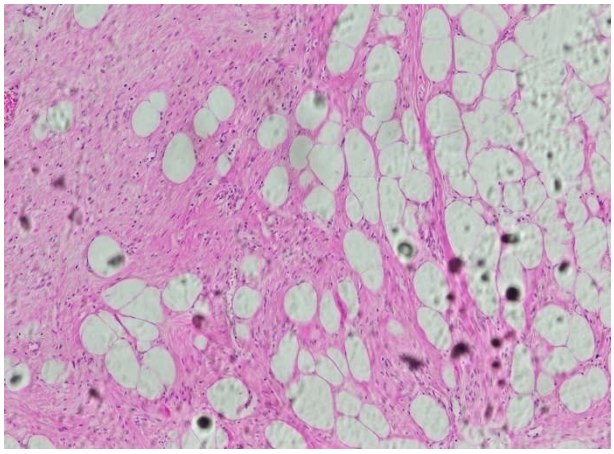

Figure 2. Photograph of the uterine mass showing lobules of mature adipose tissue intermingled with the fascicles of smooth muscle cells (H&E x 10x)

- Sequestration of embryonic mesodermal remnants with a potentiality for fatty differentiation
- Metaplasia or fatty infiltration or degeneration of smooth muscle cells.
- Inclusion of fat cells into the uterine wall during previous surgery (Nayal, 2016; Nazir, 2017).

In this case, we observed the coexistence of two metabolic disorders (diabetes mellitus and hyperlipidemia) simultaneously in a case of lipoleimyoma, so these may be features of one syndrome that need to be studied furthermore, or this coexistence can just strengthen the fatty alteration of leiomyoma to lipoleiomyoma. On gross examination, these tumours are well demarcated mass with a thin layer of fibrous tissue and are mostly originated from posterior wall of uterine corpus. Microscopically, it can be divided into three broad groups with fatty component, Pure Lipoma consisting mainly of adipocytes, Lipoleiomyoma consisting of a variable amount of adipocytes and smooth muscle fibers, and Angiomyolipoma consisting of marked vascular tissues mixed with adipocytes and smooth muscle cells (Nayal, 2016). Imaging techniques are effective in locating and detecting the fat component of lipoleiomyomas. Ultrasonography and CT usually shows a well-marginated, dense mass with fatty component, however, MRI is superior in revealing the features of the lesion (Nayal *et al*., 2016; Nazir *et al*., 2017; Kumar *et al*., 2013; Avritscher, 2001).

Conclusion

Uterine lipoleiomyoma is an extremely uncommon benign tumour with unknown etiology, coexistence of this tumour with more than one metabolic disorders i.e., diabetes mellitus and hyperlipidemia, is an observation that most likely have a role in the mechanism behind changes of leiomyoma to lipoleiomyoma or it is just associated features of one syndrome.

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